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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,209	10/30/2001	John J. Light	10559-538001/P12444	4981
20985	7590	12/17/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			KUMAR, SRILAKSHMI K	
			ART UNIT	PAPER NUMBER

2675

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,209

Applicant(s)

LIGHT, JOHN J.

Examiner

Srilakshmi K. Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following office action is in response to amendment a filed on September 21, 2004. Claims 1, 11 and 21 have been amended.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwern (US 6,084,556) in view of Miller (US 6,229,542).

As to independent **claims 1, 11 and 21**, Zwern discloses a method and apparatus of displaying a virtual three dimensional scene (Figs. 1, 3 and 6), comprising;

a memory that stores executable instructions; Zwern discloses a computer, item 12, it would have been obvious to one of ordinary skill in the art that the computer would have a memory that stores executable instructions; and

a processor (computer, item 12) that executes the instructions to: track a positional change of a head of a user with respect to a display (col. 6, lines 52-60); transform the virtual 3D scene in accordance with the positional change of the head (col. 6, lines 52-67, col. 10, lines 29-41); and project on the display a transformed virtual 3D scene (col. 6, lines 52-67, col. 10, lines 29-41).

Zwern does not disclose wherein the virtual 3D scene is rendered in a perspective projection defined by frustum bounded by a near plane and by a far plane located opposite the

near plane. In a similar field of endeavor, Miller discloses in col. 1, a method and apparatus relating to graphical user interfaces in computer systems, specifically to generalized three dimensional graphical user interface. Fig. 3 and col. 3, lines 5-52 of Miller, disclose where the virtual 3D scene is rendered in a perspective projection defined by a frustum bounded by a near plane (14) and a far plane (16). It would have been obvious to one of ordinary skill in the art to incorporate the method for rendering a virtual 3D scene as in col. 2, lines 10-30, using this method would enable the user to better manage objects shown in the virtual 3D scene.

wherein transforming comprises shifting the virtual 3D scene in a first direction of the user when the head moves from the first direction. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right.

As to dependent **claims 2, 12 and 22**, limitations of claims 1, 11 and 21, and further comprising, wherein transforming the virtual 3D scene comprises shifting the virtual 3D scene in a left direction of the user when the head moves in a right direction of the user. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right.

As to dependent **claims 3, 13 and 23**, limitations of claims 2, 12 and 22, and further comprising, wherein transforming the virtual 3D scene comprises shifting the 3D scene in a right direction of the user when the head moves in a left direction of the user. Zwern discloses in col.

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6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right. Since Zwern discloses the moving to the left to shown the image to the right, it would have been obvious to one of ordinary skill in the art that the head and image would be able to move in the opposite direction as well.

As to dependent **claims 4, 14 and 24**, limitations of claims 3, 13 and 23, wherein the camera is attached to the display. Zwern discloses a camera in Figs. 1, 3 and 5. Although Zwern does not teach where the camera is attached to a display, it would have been obvious to one of ordinary skill in the art that a camera could have been shown to be attached to the display as the cameras on for computers are readily available to consumers.

As to dependent **claims 5, 15 and 25**, limitations of claims 1, 11 and 21, and further comprising, wherein transforming the virtual 3D scene comprises increasing a magnification of the virtual 3D scene when the head moves toward the display. Although Zwern does not disclose where the increase in magnification is accomplished by moving the users head, it would have been obvious to one of ordinary skill in the art that as the user moves his head the image changes (col. 6, lines 52-67), thus as the user moves his head towards the display, the image could have been magnified or zoomed.

As to dependent **claims 6, 16 and 26**, limitations of claims 5, 15 and 25, and further comprising, wherein transforming the virtual 3D scene comprises reducing the magnification of the virtual 3D scene when the head moves away from the display. Although Zwern does not disclose where the decrease in magnification is accomplished by moving the users head, it would

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have been obvious to one of ordinary skill in the art that as the user moves his head the image changes (col. 6, lines 52-67), thus as the user moves his head away from the display, the image could have decreased in magnification or zoom.

As to dependent **claims 7, 17 and 27**, limitations of claims 5, 15 and 25, and further comprising, wherein the camera is positioned above the display. Zwern discloses a camera in Figs. 1, 3 and 5. Although Zwern does not teach where the camera is attached to a display, it would have been obvious to one of ordinary skill in the art that a camera could have been shown to be attached to the display as the cameras on for computers are readily available to consumers.

As to dependent **claims 8, 18 and 28**, limitations of claims 3, 13 and 23, and further comprising, wherein the virtual 3D scene is shifted with respect to the head by a factor of 10. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right. Since Zwern discloses the moving to the left to shown the image to the right, it would have been obvious to one of ordinary skill in the art that the head and image would be able to move in the opposite direction as well.

As to dependent **claims 9, 19 and 29**, limitations of claims 1, 11 and 21, and further comprising, wherein tracking the positional change of the head further comprises tracking an iridescent color in an object attached to the head. Although Zwern does not disclose tracking an iridescent color in the object attached to the head, it would have been obvious to one of ordinary skill in the art that the position tracker could have been programmed to track in different ways as disclosed in col. 14, lines 14-42.

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As to dependent **claims 10, 20 and 30**, see limitations of claims 2, 3, 12, 13, 22 and 23, above.

Response to Arguments

3. Applicant's arguments filed July 22 and September 21, 2004 have been fully considered but they are not persuasive.

Applicant argues that Zwern does not disclose where transforming comprises shifting the virtual 3D scene in a first direction of the user when the head moves from the first direction. Examiner, respectfully, disagrees. Zwern discloses in col. 6, lines 52-67, as the user looks to the right, the portion of the virtual image being seen by the user is to the right of the portion of the virtual image previously being seen by the user. This passage in Zwern clearly reads upon the limitation of transforming comprises shifting the virtual 3D scene in a first direction of the user when the head moves from the first direction as Zwern discloses that the old scene has moved to the left when the users head moves to the right.

Zwern in combination with Miller teaches the limitations of the applicant's claimed invention. Thus, the above rejection of Zwern in combination with Miller is maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, xxxx xxxx can be reached on xxx xxx xxxx. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar
Examiner
Art Unit 2675

SKK
December 9, 2004



DENNIS-DOON CHOW
PRIMARY EXAMINER